

STEELCLEAN

WASHABLE UNITS FOR
FOOD INDUSTRY



INTRODUCTION

Compliance with hygiene standards is the highest priority in food processing. In these environments, bacterial contamination that may originate in the air handling units can spread in the air distribution systems, causing damage to the product, to the health of the consumer and entail very high costs that often exceed, IN A SHORT TIME, the pure investment for the air handling unit.

In these processes, the use of detergents and disinfectants is often problematic without considering that many food processes are often very sensitive to temperature changes and changes in the chemical composition of the air, so long

and repeated cleaning of the units can hinder the processes themselves and cause serious economic damage.

Often, the temperature and humidity conditions required by these processes are also ideal for the proliferation of bacteriological cultures, almost always in remote points, cavities, edges and corners, where cleaning operations are not very effective. The **STEELCLEAN** series air handling units have been designed for all these applications, air treatment unit **COMPLETELY SANITIZABLE** and **STERILIZABLE** in every single part, assembled with materials resistant to sterilization temperatures close to 150 °C.



CERTIFICATIONS

Good air quality means good quality of life. Certification in accordance with VDI 6022 ensures that the unit complies with the most stringent hygiene requirements in the industry. It also ensures that the supply air does not contain pathogenic spores or hazardous substances for the entire service life of the system, with a better indoor climate and optimal well-being and performance.

Materials certified according to VDI 6022 are subjected to extensive testing to ensure that they do not facilitate the growth of bacteria or fungi and are also tested for the release of hazardous substances.

Finally, the **STEELCLEAN** units are easy to clean because the surfaces are sealed and can withstand approved cleaning agents and disinfection methods.

This series has been designed specifically for applications in the food industry and for production processes where a very high degree of cleanliness is required.

It also represents the state of the art among the specific units for the food sector, and is suitable for use with high temperature differences between the air inside and outside, excellent sound reduction and absence of thermal bridges.




Dipl.-Ing. Manfred Michalitsch

ÜBERPRÜFTE TECHNIK FÜR RLT-HYGIENE

gem. **ÖNORM H 6020** (15.3.2015)

Lüftungstechnische Anlagen für medizinisch genutzte Räume – Projektierung, Errichtung, Betrieb, Instandhaltung, technische und hygienische Kontrollen

Auftraggeber: Via B. Brugnoli 3
I-37063 Isola della Scala (VR)

Gerätefabrikat Typen: CTL, STEEL CLEAN, AIR CLEAN

Die ÖNORM H 6020 gilt für raumlufttechnische Anlagen (RLT-Anlagen) und deren Komponenten in Gebäuden und Räumen des Gesundheits- und Sozialwesens, in denen medizinische Untersuchungen, Behandlungen und Eingriffe an Personen vorgenommen werden. Dazu zählen z. B.: Krankenanstalten und andere nach KAKuG bewilligte Einrichtungen des Gesundheitswesens wie z. B. Dialysezentren, Ambulatorien, Kuranstalten, Sanatorien und Pflegeeinrichtungen.

Die Auflagen der
 ÖNORM H 6021²⁰¹⁶ „Lüftungstechnische Anlagen - Reinhaltung und Reinigung“,
 ÖNORM EN 1886²⁰⁰⁹ „Lüftung von Gebäuden - Zentrale raumlufttechnische Geräte - Mechanische Eigenschaften und Messverfahren“,
 ÖNORM EN 13053²⁰¹¹ „Lüftung von Gebäuden - Zentrale raumlufttechnische Geräte - Leistungsdaten für Geräte, Komponenten und Baueinheiten“
 sind einzuhalten.

Es sind jene Ausführungen (Gehäusedicken, Art der Dämmung) aus den Serien CTL, STEEL CLEAN, AIR CLEAN zu wählen, die die Mindest-Gehäuseeigenschaften gem. ÖNORM H 6020²⁰¹⁵ (das sind die Werte der jeweiligen Modelbox: L2, D2, T3, TB3, F3) nachweislich erfüllen.

Damit sind die Voraussetzungen des Herstellers im RLT-Geräteprogramm Typen CTL, STEEL CLEAN und AIR CLEAN zur Einhaltung obiger Normen nach Sachverständigenbeurteilung gegeben.

FAC-SIMILE




Wien, 17.7.2017

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MAIN CHARACTERISTICS

STRUCTURE

The internal structure of the units is made of chambers with watertight modules in AISI 304 stainless steel of strong thickness (15/10mm) manually TIG-welded.



TIG-WELDING

ADVANTAGES

- smooth, crack-free interior surfaces that are easy to clean and disinfect;
- high degree of noise reduction;
- absence of thermal bridges (the internal chambers are completely insulated from the external structure);
- accessibility of all internal components to facilitate the sanitisation and extraction of components.

INTERNAL CHAMBERS

All internal chambers are made of AISI 304 stainless steel, designed and built completely rounded and without sharp edges or corners that cannot be reached, to avoid the accumulation of dirt and facilitate hygienic operations, so as to reach the maximum level of HYGIENE.

All internal corners are connected with a radius of curvature that allows easy cleaning and disinfection.



STRUCTURAL WORK WITHOUT SHARP CORNERS

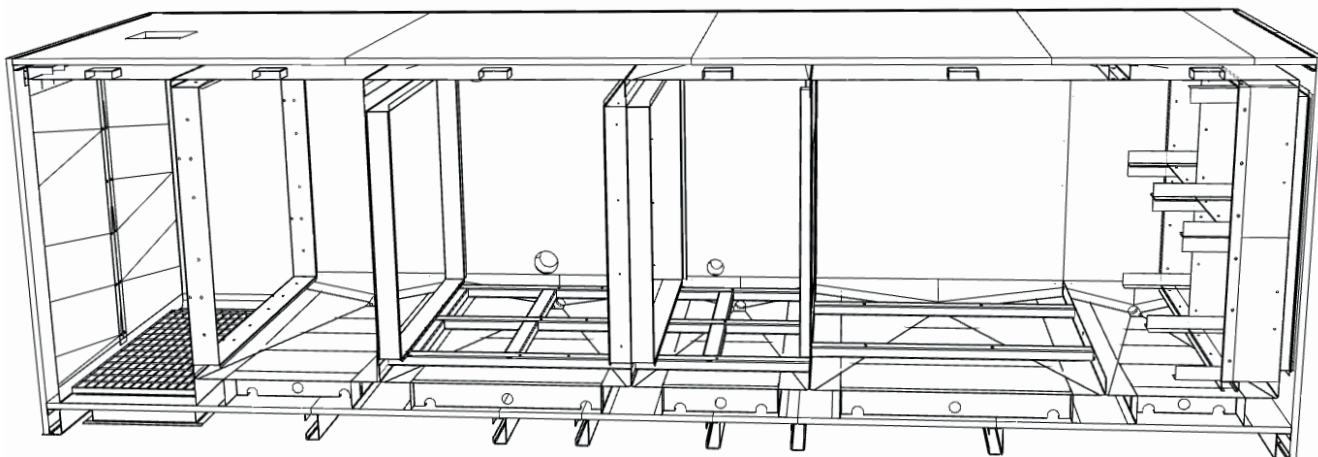
The units are characterised by a very high thermal and acoustic insulation guaranteed by a self-supporting frame structure in sandwich panels **75 to 100 mm** thick, made of an inner shell in stainless steel AISI 304 with polyurethane foam in between with density 40 kg/m³ and outer sheet of any sheet metal and thickness.

Possibility of choosing the EXTERNAL metal sheet among:

- pre-painted white galvanised steel (RAL 9010);
- AISI 304 or AISI 316 stainless steel;
- aluminium sheet with magnesium.

Possibility of choosing the INTERNAL structural work and welded chamber between:

- AISI 304 or AISI 316 stainless steel.



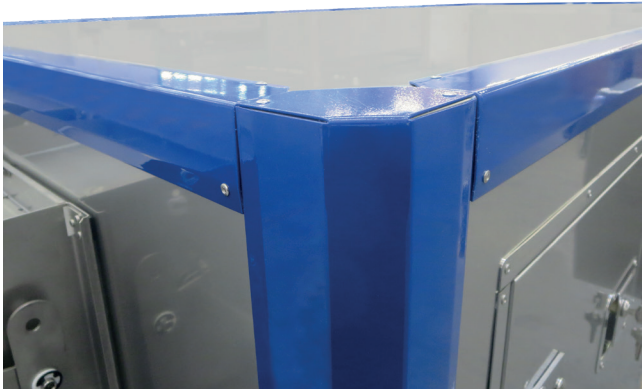
DETAIL OF THE INTERNAL CHAMBERS

MAIN CHARACTERISTICS

PANELS

The panels can be made in two different thicknesses: **75 mm** and **100 mm**.

Both versions are characterized by a sandwich panel with thermal insulation in injected isocyanate at high density (40 kg/m³).



EXTERNAL FRAME PAINTED ON REQUEST

The external finishing frame of the panels is made of 06/10mm steel, and it is possible to have it painted in a personalised RAL colour, on request of the customer.

BASE FRAME

The **BASE FRAME** is made of 304 stainless steel with a high thickness (30/10 mm) and variable height to allow the creation of siphons of adequate height to the pressures at stake, with the possibility of adding fixed or threaded **FEET** and adjustable in height, suitable to level the unit in case of uneven support base.



BASE FRAME WITH ADJUSTABLE FEET

COMPONENTS

On all the sections, and in correspondence of each internal component, there are several drain pans for collecting condensate and liquids used in the hygienic processes.

The **DRAIN PANS** are made of AISI 304 or AISI 316 steel, and their particular construction with sloped and rounded edges, with steep slopes and adequate drains, ensures perfect drainage of hygienic liquids and the absence of stagnation of condensation.

The drain pans comply with directives 2006/42/EC and EN 6022.



SLOPED DRAIN PANS

The inspection **DOORS** are built with internal panel in stainless steel AISI 304 and external panel with finish on request of the customer. The doors are completely recessed in the unit structure and, when closed, they form a smooth internal surface without protrusions or sharp edges, in order to avoid the accumulation of dirt.

Installation on board of **ACCESSORIES** such as pressure switches and differential pressure gauges, flow meters, temperature probes and cable glands.



DIFFERENT TYPES OF HINGES

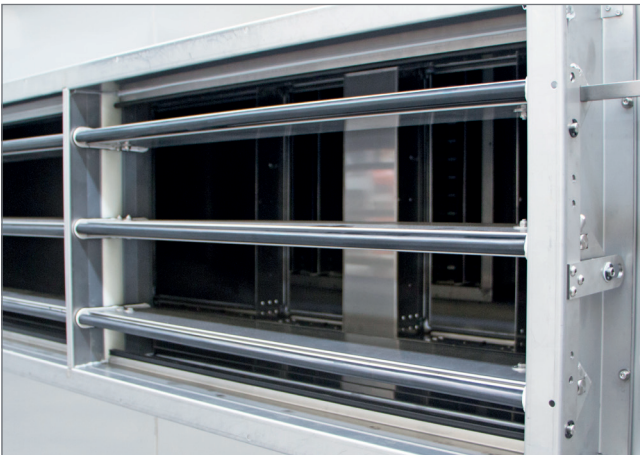
MAIN CHARACTERISTICS

The locking system of the doors uses completely external **HANDLES** and hinges in stainless steel, so as to allow an easy cleaning and disinfection.



CLOSING HANDLES

DAMPERS with perfectly airtight gaskets (L4).



AIRTIGHT DAMPERS

Possibility of adopting **FILTER SYSTEMS** of various efficiency classes (panel filters, soft and rigid bag filters, absolute filters) on AISI 304 stainless steel counterframes.



BAG FILTERS

COILS of any type (water-glycol, direct expansion, steam) and combination of materials (stainless steel, copper tubes, aluminum, copper, stainless steel fins, with cataphoresis treatment...) with frames in stainless steel AISI 304. Possibility of installing automatic washing systems inside the unit (e.g. coil sections) on both horizontal (H) and vertical (V) versions.



COILS WITH SPECIAL TREATMENT

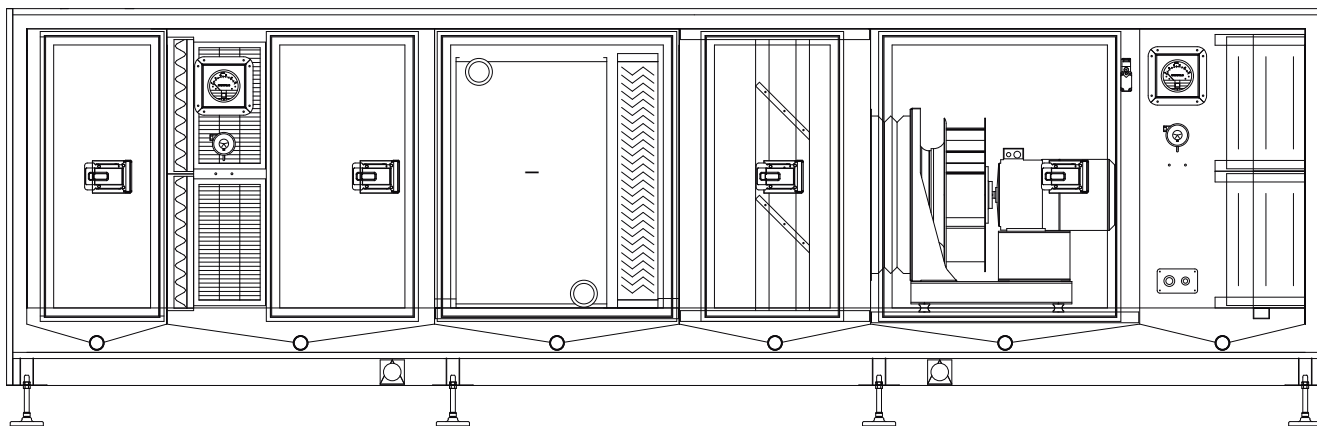
PLUG FANS treated with epoxy coating.



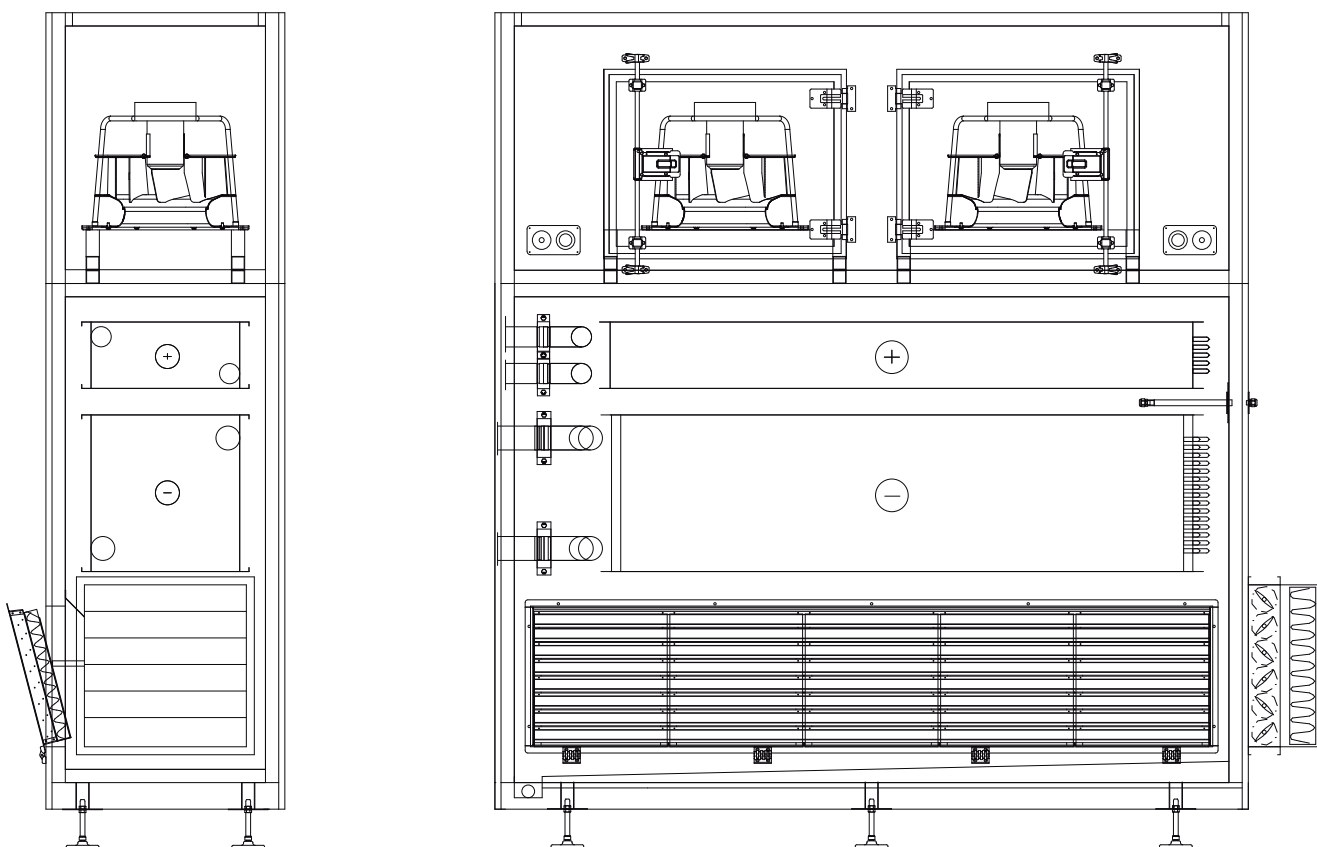
PLUG-FANS

CONFIGURATION AND TYPOLOGY

AHUs can be configured with a monobloc structure or divided into several sections to facilitate transport and facilitate the customer in handling and positioning on site, with horizontal (H) or vertical (V) configuration.



HORIZONTAL CONFIGURATION (H)



VERTICAL CONFIGURATION (V)